

IN THE CLAIMS

PLEASE AMEND THE CLAIMS AS FOLLOWS:

1. (currently amended) A system for ultrasonic imaging, comprising:
 - a signal generator unit for generating at least two out-of-phase pulses;
 - a signal transmitter unit coupled to [[said]] the signal generator unit for transmitting [[said]] the at least two out-of-phase pulses into media of interest;
 - a receiver and raw data averager unit for receiving the [[said]] at least two out-of-phase pulses modified by [[said]] the media of interest, the receiver and raw data averager unit providing a point-by-point arithmetic average of the received at least two out-of-phase pulses modified by the media of interest; and
 - a data processing unit coupled to [[said]] the receiver and raw data averager unit, the data processing unit constructing an area of acoustic image based on the point-by-point arithmetic average provided by the receiver and raw data averager unit.
2. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit is a digital waveform generator.
3. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit modulates an amplitude of at least two out-of-phase sine waves, which produce [[said]] the at least two out-of-phase pulses.
4. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit modulates a frequency of at least two out-of-phase sine waves, which produce [[said]] the at least two out-of-phase pulses.

5. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit modulates a pulse width of at least two out-of-phase sine waves, which produce [[said]] the at least two out-of-phase pulses.
6. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit convolves at least two out-of-phase sine waves with an envelope function to produce [[said]] the at least two out-of-phase pulses.
7. (currently amended) The system of claim 6, wherein [[said]] the envelope function is a Gaussian waveform.
8. (currently amended) The system of claim 6, wherein [[said]] the envelope function is a chirped waveform.
9. (currently amended) The system of claim 6, wherein [[said]] the at least two out-of-phase sine waves are modulated in a way to produce a chirped Gaussian pulse width modulated waveform.
10. (currently amended) The system of claim 1 wherein [[said]] the signal transmitter unit comprises a power amplifier, a transmit/receive switch, and a transducer.
11. (original) The system of claim 10, further comprising a digital delay circuit configured to delay the transmission of the at least two out-of-phase pulses into media of interest.
12. (original) The system of claim 10, further comprising an analog delay circuit configured to delay the transmission of the at least two out-of-phase pulses into media of interest.

13. (original) The system of claim 10, further comprising a channel gain circuit to drive the power amplifier.

14. (currently amended) The system of claim 1, wherein [[said]] the at least two out-of-phase pulses are alternately transmitted by [[said]] the signal transmitter unit to produce a pulse set.

15. (currently amended) The system of claim 1, wherein [[said]] the receiver and raw data averager unit comprises a transducer, a transmit/receive switch, an analog-to-digital converter, and an averager.

16. (currently amended) The system of claim 15, wherein [[said]] the receiver and raw data averager unit further comprises a power amplifier, a bandpass filter, and a baseband filter.

17. (currently amended) The system of claim 15, wherein [[said]] the receiver and raw data averager unit further comprises an in-phase and quadrature mixer configured to produce a single side-band signal.

18. (currently amended) The system of claim 1, wherein [[said]] the signal generator unit and [[said]] the receiver and raw data averager unit share a transducer.

19. (currently amended) The system of claim 1, wherein [[said]] the data processing unit comprises an in-phase and quadrature mixer, a digital signal processor, an acoustic image data buffer, and a scan converter.

20. (currently amended) The system of claim 1, wherein [[said]] the data processing unit comprises an in-phase and quadrature mixer, an application specific integrated circuit, an acoustic image data buffer, and a scan converter.

21. (currently amended) The system of claim 1, further comprising an image display unit coupled to [[said]] the data processing unit.
22. (currently amended) The system of claim 21, wherein [[said]] the image display unit is a computer monitor, the computer monitor configured to display the area of acoustic image.
23. (currently amended) The system of claim 21, wherein [[said]] the image display unit is a flat-panel display, the flat-panel display configured to display the area of acoustic image.
24. (currently amended) The system of claim 21, wherein [[said]] the image display unit is a liquid-crystal display, the liquid-crystal display configured to display the area of acoustic image.